

U.S. Patent Application Serial No. 09/830,385
Reply to Office Action dated July 14, 2004

Please insert the following on page 1, line 3:

--CROSS REFERENCE TO RELATED APPLICATIONS

This application is a 35 U.S.C. 371 of PCT application PCT/CN00/00151 filed June 12, 2000, which claims priority on application 99124113.4 filed on November 24, 1999 in China.--

Please amend the specification per the attached marked-up copy.

Amendments to the Claims:

This listing of claims will replace all prior versions and listing of claims in the application.

Claims 2-7 and 9-10 are amended.

Claims 1 and 8 are cancelled.

Listing of Claims:

1. (Cancelled)
2. (Currently Amended) A multi-selection coherent detection method according to Claim [[1]]3, wherein, the segments in step [[a]] A are equal spaced or unequal spaced.
3. (Currently Amended) A multi-sectional coherent detection method ~~according to Claim 1,~~ comprising the steps of:
 - A. dividing a length L used for the signal detection into N_{multicoh} segments, performing coherent accumulating with each segment, and obtaining total N_{multicoh} coherent results denoted as X_i ($i=0 \dots N_{\text{noncoh}}-1$);
 - B. performing various possible phase adjustments on those N_{multicoh} coherent results (the number of the possible phase adjustments being denoted as P), and denoting the adjustment results as Y_{i-j} ($i=0 \dots N_{\text{multicoh}}-1, j=0 \dots P-1$);
 - C. selecting a value of the adjustment result from P adjustment results corresponding to each coherent result, and the largest number of the combinations being $C=P^{N_{\text{multicoh}}}$,

D. coherently accumulating N_{multicoh} adjustment results in each combination and obtaining $C=P^{N_{\text{multicoh}}}$ coherent results denoted as $Z_t (t=0...C-1)$;

E. among $C=P^{N_{\text{multicoh}}}$ coherent results, selecting the optimum results as the detection results;

wherein, in the phase adjustment of step [[b]]B, when the number of the phase adjustments is P , performing the phase rotation of $\phi = \phi_0 + k * 2 \pi / p$, ($k=0...P-1$), on the signals respectively, wherein, ϕ_0 may be any value.

4. (Currently Amended) A multi-selection coherent detection method according to Claim [[1]]3, wherein, in the said step [[a]]A, obtaining one X_i for each segment, and there being total N_{multicoh} coherent results; according to step b further, performing P phase adjustments for each coherent result, and obtaining total $N_{\text{multicoh}} * P$ adjustment coherent results.

5. (Currently Amended) A multi-section coherent detection method according to Claim 4, wherein, selecting one adjustment coherent result from P adjustment coherent results corresponding to each coherent result, and ~~earring~~ carrying out the coherent overlapping on total N_{multicoh} adjustment coherent results, and obtaining a final coherent result Z_t obtained; in this way, there being total $C=P^{N_{\text{multicoh}}}$ possible selection methods, then obtaining $C=P^{N_{\text{multicoh}}}$ final coherent results Z_t further.

6. (Currently Amended) A multi-selection coherent detection method according to Claim [[1]]3, wherein, in step [[e]]E, [[the]] a method of [[the]] largest mode is used as a criterion by a selector to calculate $\text{Max}_{n s(n=1, 2...8)}$ for selecting the optimum [[ones]] branch results, wherein a comparison of the $\text{Max}_{n s(n=1, 2...8)}$ results provides a final output detection result.

7. (Currently Amended) A multi-selection coherent detection method according to Claim 5, wherein, the number of ~~the largest said coherent results is $C=P^{N_{\text{multicoh}}}$ or less, however~~

it does not mean that $C=P^{N_{\text{multicoh}}}$ coherent results must be obtained in the practical application; the number of the coherent results that less than $C=P^{N_{\text{multicoh}}}$ may be used according to the situations to reduce the number of coherent results required.

8. (Cancelled)

9. (Currently Amended) A multi-selection coherent detection device according to Claim 8, wherein, the said detection device comprises: a matched filter unit; two or more branch units; and a branch selection unit, wherein an input signal is input to the matched filter unit; the output of the matched filter unit is sent to each branch unit respectively where phase adjustment and coherent accumulation of the signal is performed, and then sent to a branch selection unit where a method of largest mode is used as a criterion by a selector to calculate $\text{Max}_n s(n=1, 2 \dots 8)$ for selecting the optimum branch branch results, wherein a comparison of the $\text{Max}_n s(n=1, 2 \dots 8)$ results provides a final output detection result,

wherein, each said branch unit further comprises: a multiplier, for carrying out the phase adjustment; an adder, for carrying out the coherent accumulation; a holder, for holding the data; a delay unit for delaying the data;

wherein the output of the matched filter is sent to the branch selection unit via the multiplier, and the adder in turn; and

meanwhile, the an adjustment series of four bits is sent to the multiplier via the holder, and [[the]]an output of the adder is feedback fed back to its input via the delay unit.

10. (Currently Amended) A multi-selection coherent detection device according to Claim 9, wherein, both [[the]]a holding time of the holder and [[the]]a delay time of the delay unit are for a time period of 1024 chips.